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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/465,980	12/16/1999	BARTLEY H. CALDER	SUN1P502	9641

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EXAMINER
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VO, LILIAN

ART UNIT	PAPER NUMBER
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2127

DATE MAILED: 01/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/465,980	<b>Applicant(s)</b> CALDER ET AL.	
	<b>Examiner</b> Lilian Vo	<b>Art Unit</b> 2127	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1 - 46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>01192005</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

1. Claims 1 – 46 are pending.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 – 30 and 34 – 46 are rejected under 35 U.S.C. 102(e) as being anticipated by Judge et al. (US 6,430,570, hereinafter Judge).
4. Regarding **claim 1**, Judge discloses a computer program product for managing execution of an application according to a lifecycle (col. 2, lines 29 – 42, col. 7, lines 12 - 18), the computer program product comprising a computer readable medium storing computer-readable instructions thereon, the computer-readable instructions including:  
  
instructions for receiving a state change request from the application, the state change request indicating a request from an application manager initiate a change in state of the application from a first state to a second state (col. 4, lines 24 – 25, 38 - col. 5, line 14:  
  
application manager provides downloading, starting, stopping, querying, and memory

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management capabilities. Col. 9, lines 5 – 40: if a request is a startAppl() request, the application is start. Col. 13, lines 7 - 35); and

instructions for initiating the state change of the application in response to the state change request when the second state is an allowable state according to a specified set of rules (col. 2, lines 29 – 42, col. 9, lines 3 – 40, and fig. 4).

5. Regarding **claim 2**, Judge discloses that the second state is an active state indicating that the application is currently executing (col. 9, lines 19 – 21).

6. Regarding **claim 3**, Judge discloses a computer program product for managing execution of an application according to a lifecycle (col. 2, lines 29 – 42, col. 7, lines 12 - 18), the computer program product comprising a computer readable medium storing computer-readable instructions thereon, the computer-readable instructions including:

instructions for receiving a signal indicating that a new service is selected (col. 9, lines 3 – 6);

instructions for initiating execution of the application when the new service is selected such that the application enters an active state (col. 3, lines 57 – 61, col. 9, lines 19 – 21: startAppl());

instructions for pausing execution of the application such that the application enters a paused state from the active state (col. 4, lines 24 – 25, col. 9, lines 19 – 21: stopAppl());

instructions for receiving a resume request from the application indicating that the application wishes to resume execution and enter the active state from the paused state (col. 4, lines 24 – 25, col. 7, line 66 – col. 8, line 36); and

instructions for starting execution of the application such that the application enters the active state from the paused state when the resume request is received from the application (col. 4, lines 24 – 25, col. 8, line 32 – 33, col. 9, lines 3 - 40).

7. Regarding **claim 4**, Judge discloses a computer program product for managing execution of an application according to a lifecycle (col. 2, lines 29 – 42, col. 7, lines 12 - 18), the computer program product comprising a computer readable medium storing computer-readable instructions thereon, the computer-readable instructions including:

instructions for initiating execution of each one of the plurality of applications such that the plurality of applications enter an active state (col. 3, lines 57 – 61, col. 9, lines 10 – 24);

instructions for pausing execution of one of the applications such that the application enters a paused state from the active state (col. 4, lines 24 – 25, col. 9, lines 10 – 24);

instructions for receiving a resume request from one of the applications indicating that the application request to resume execution and enter the active state from the paused state (col. 4, lines 24 – 25, col. 7, line 66 – col. 8, line 36);

instructions for selecting one of the applications from which the resume request was received (col. 4, lines 24 – 25, col. 7, line 66 – col. 8, line 36); and

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starting execution of the selected application such that the selected application enters the active state from the paused state in response to receiving the resume request from the application (col. 4, lines 24 – 25, col. 8, line 32 – 33, col. 9, lines 3 – 40).

8. Regarding **claim 5**, Judge discloses a computer program product for managing execution of an application according to a lifecycle (col. 2, lines 29 – 42, col. 7, lines 12 – 18), the computer program product comprising a computer readable medium storing computer-readable instructions thereon, the computer-readable instructions including:

instructions requesting a first time that the application change its state from a first state to a second state (col. 4, lines 24 – 25, col. 9, lines 3 – 40);

instructions for determining whether the application has changed its state from the first state to the second state (col. 13, line 36 – col. 14, line 14); and

instructions for requesting a second time that the application change its state from the first state to the second state (col. 4, lines 24 – 25, col. 9, lines 3 – 40); and

instructions for requesting a second time that the application change its state from the first state to the second state when it is determined that the application has not changed its state from the first state to the second state and a predetermined condition is satisfied (col. 4, lines 24 – 25, col. 13, lines 8 – 35).

9. Regarding **claim 6**, Judge discloses the predetermined condition indicates that specified period of time has elapsed or that the application is now able to perform the request state change (col. 13, lines 29 – 35).

10. Regarding **claim 7**, Judge discloses wherein it is determined that the application has not changed its state when a state change exception is raised by the application (col. 13, line 64 – col. 14, line 1).

11. Regarding **claim 8**, Judge discloses wherein it is determined that the application has not changed its state when the application rejects the requested state change (col. 13, line 64 – col. 14, line 1).

12. Regarding **claim 9**, Judge discloses wherein it is determined that the application has not changed its state when the application is unable to perform requested state change (col. 13, lines 31 – 32, 64 – col. 14, line 1).

13. Regarding **claim 10**, Judge discloses a computer program product for managing execution of an application according to a lifecycle (col. 2, lines 29 – 42, col. 7, lines 12 – 18), the computer program product comprising a computer readable medium storing computer-readable instructions thereon, the computer-readable instructions including:

instructions requesting that the application change its state from a first state to a second state (col. 4, lines 24 – 25, col. 9, lines 3 – 40);

instructions for determining whether the application change its state from the first state to the second state (col. 4, lines 24 – 25, col. 9, lines 3 – 40); and

instructions for requesting that the application change its state from the first state to a third state when it is determined that the application has not changed its state from the first state to the second state (col. 4, lines 24 – 25, col. 13, line 36 – col. 14, line 14).

14. Regarding **claim 11**, Judge discloses the active state, the destroyed state and the paused state (col. 9, lines 3 – 40).

15. **Claims 12 – 20** are rejected on the same ground as stated in claims 7 - 11 above.

16. Regarding **claim 21**, Judge discloses a system for managing execution of an application according to an application lifecycle (col. 2, lines 29 – 42), the system comprising:

one or more rules (col. 2, lines 29 – 42, col. 9, lines 3 – 10, and fig 4);

an application manager capable of executing one or more applications according to an application lifecycle enabling each of the applications to enter one of a plurality of states in response to one or more associated predetermined commands (col. 2, lines 29 – 42, col. 4, lines 38 – 67, figs. 1, 2), the application manager capable of selecting one of the predetermined commands to execute according to the one or more rules (col. 2, lines 29 – 42, col. 9, lines 3 – 10, and fig. 4).

17. Regarding **claim 22**, Judge discloses the system as recited in claim 21, further comprising:



a signaling monitor coupled to the application manager and capable of receiving a data stream, the signal monitor adapted for determining whether an application is present in the data stream and communicating information associated with the application to the application manager (col. 3, lines 22 – 40, 57 – col. 4, line 9, col. 6, lines 5 – 15, col. 9, lines 3 – 40, figs. 2 and 4).

18. Regarding **claim 23**, Judge discloses the system as recited in claim 21, wherein the application manager is configured to store an application context for each of the applications, the application context identifying a current one of the plurality of states (col. 7, lines 12 – 27).

19. Regarding **claim 24**, Judge discloses the system as recited in claim 23, wherein the current one of the plurality of states is identified by the associated application to the application manager (col. 7, lines 12 – 27).

20. Regarding **claim 25**, Judge discloses the system as recited in claim 23, wherein the application context further identifies a class loader capable of loading one or more classes associated with the application (col. 3, line 3, line 5 – col. 4, line 9, col. 10, line 46 – col. 11, line 58, col. 13, lines 46 – 52, figs. 3, 4 and 6).

21. Regarding **claim 26**, Judge discloses the system as recited in claim 23, wherein the application context further identifies a display context including display information to be displayed (col. 5, line 64 – col. 6, line 4, col. 11, lines 9 – 58, col. 12, lines 1 – 15, and 55 – 67).

22. Regarding **claim 27**, Judge discloses the system as recited in claim 23, wherein the application context further identifies an application environment object enabling the associated application to communicate with the application manager (col. 4, lines 38 – 67, col. 5, lines 33 – 36, col. 7, lines 13 – 27, fig. 6).

23. Regarding **claim 28**, Judge discloses the system as recited in claim 23, wherein the application context further identifies an application environment object that enables the associated application to retrieve properties associated with its runtime environment (col. 4, line 38 – col. 5, line 14, 33 – 36, col. 7, lines 13 – 27, figs. 4 and 6).

24. Regarding **claim 29**, Judge discloses the system as recited in claim 23, wherein the application context further identifies an application environment object that enables the associated application to communicate a state change to one of the plurality of states (col. 4, line 38 – col. 5, line 14, 33 – 36, col. 7, lines 13 – 27, figs. 4 and 6).

25. Regarding **claim 30**, Judge discloses the system as recited in claim 23, wherein the application context further identifies an application environment object that enables the associated application to request that the application manager change the current state of the application from a paused state to an active state (col. 8, lines 25 – 36, col. 9, lines 2 – 40, fig. 4).

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26. Regarding **claim 34**, Judge discloses a digital television receiver for managing execution of an application according to a life cycle, comprising:

a processor (col. 3, lines 9 – 15, fig. 1); and

instructions including:

instructions for determining from a data stream whether an application is present in the data stream (col. 3, lines 22 – 40, 57 – col. 4, line 9, col. 6, lines 5 – 15, col. 9, lines 3 – 40, figs. 2 and 4);

instruction for loading an application when it is determined that an application is present in the data stream (col. 3, line 3, line 5 – col. 4, line 9, col. 10, line 46 – col. 11, line 58, col. 13, lines 46 – 52, figs. 3, 4 and 6); and

instructions for executing the loaded application according to the lifecycle, the lifecycle including a plurality of states (col. 4, lines 24 – 25, col. 9, lines 3 – 40).

27. Regarding **claim 35**, Judge discloses the instructions for executing the application comprises:

a first interface that is visible to an application manager, the first interface adapted for enabling the application manager to cause the application to change from one of the plurality of states to another one of the plurality of states (col. 3, lines 22 – 41, col. 7, line 67 – col. 8, line 19, figs. 1, 4, 6 and 7); and

a second interface that is visible to the application, the second interface adapted for enabling the application to communicate to the application manager, state change of the application from one of a first set of the plurality of states to one of a second set of the plurality

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of states (col. 3, lines 22 – 41, col. 7, line 67 – col. 8, line 19, col. 13, lines 64 – 66, figs. 1, 4, 6, 7 and 9).

28. **Claims 36 - 41** are rejected on the same ground as stated in claims 7 – 9, 11 and 35 above.

29. Regarding **claim 42**, Judge discloses the instructions enabling the application to raise a state change exception indicating that the application does not want to change its state as the application manager has requested (col. 7, line 6 – col. 8, line 11, 25 - 36).

30. Regarding **claim 43**, Judge discloses the instructions for releasing memory associated with the application when the application has been terminated (col. 7, lines 19 – 27, col. 8, lines 1 – 22, col. 9, lines 41 – 51).

31. Regarding **claim 44**, Judge discloses the instructions for creating a class loader associated with the application, the class loader being adapted for loading one or more classes associated with the application (figs. 2 - 4, col. 3, lines 22 – 55);

instructions for employing the class loader to load the classes associated with the application (col. 4, lines 4 – 23); and

instructions for instantiating the application using the classes that have been loaded by the class loader (fig. 3, col. 4, lines 1- 23).

32. Regarding **claim 45**, Judge discloses the instruction for unloading the classes associated with the application when the application is terminated (col. 8, lines 1 – 22).

33. Regarding **claim 46**, Judge discloses the instruction for de-reference the class loader (col. 9, lines 41 – 51, col. 13, line 64 – col. 14, line 14).

***Claim Rejections - 35 USC § 103***

34. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

35. Claims 31 – 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Judge et al. (US 6,430,570, hereinafter Judge).

36. Regarding **claim 31**, Judge discloses that a display manager coupled to the application manager and adapted for managing a display context for each of the applications (figs. 1 – 2, col. 3, line 22 – col. 4, line 9, 24 - 35). Judge however did not clearly disclose the display context being in a first state when the display context is visible and being in a second state when the display context is invisible. Instead, Judge discloses the managing of application execution according to a life cycle in which application enters active state and paused state (col. 4, lines 24 – 25, col. 7, lines 12 – 18). It would have been obvious for one of an ordinary skill in the art, at

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the time the invention was made, to recognize the teaching of display context can be visible and invisible because when the application is in active state, output/result associated with its functions are to be displayed. On the other hand, when the application is in the paused state (inactive), there is nothing to be displayed, thus invisible.

37. Regarding **claim 32**, Judge discloses that display context is in the first state when the application is in an active state and in the second state when the application is in a paused state (col. 3, lines 57 – 61, col. 4, lines 24 – 25).

38. Regarding **claim 33**, Judge discloses that the state display context is determined according to the one or more rules followed by the application manager (col. 2, lines 29 – 42, col. 9, lines 3 – 40, and fig. 4).

### ***Response to Arguments***

39. Applicant's arguments filed 8/30/04 have been fully considered but they are not persuasive for the reason set forth below.

40. In response to applicant's argument (page 12, 4<sup>th</sup> paragraph) that the reference fails to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the ability of an application to communicate that it has decided to terminate, pause or resume its own execution) are not recited in the rejected claim(s). Although the claims are

interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

With respect to the ability of an application to communicate a state change request (page 12, 4<sup>th</sup> paragraph, page 13, 3<sup>rd</sup> – 4<sup>th</sup> paragraphs), Judge discloses in col. 9, lines 13 – 30 in which “...if a request is a startAppl() request, the application is start...”

41. Regarding applicant’s remarks that “the parameter does not indicate whether the termination is conditional or unconditional” (page 12, 5<sup>th</sup> paragraph), the examiner would like to point out that the claim did not recite or mention anything about the termination of the application. With respect to applicant’s remarks, the application that is terminated is depending on the passing parameter. In other words, the application is conditionally changing to a different state according to the receiving parameter. Therefore, Judge clearly recites that the application is conditionally changing from one state to another.

42. Applicant's arguments with respect to claims 10, 15, 19, 20, 21, 27 – 42 fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

43. In response to applicant’s arguments that Judge neither discloses nor suggests constructing a class loader for an application (page 14, 5<sup>th</sup> paragraph, lines 1 – 2), the examiner disagrees. Judge discloses that application 26 is brought to life after it has been loaded by the

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class loader (col. 4, lines 4 – 23). The step of constructing a class loader is considered inherent because in order for the class loader to load the application, it has to be constructed/instantiated to be existed.

In response to applicant's argument that the reference fails to show certain features of applicant's invention (page 14, 5<sup>th</sup> paragraph lines 2 – 10), it is noted that the features upon which applicant relies (i.e constructing a plurality of class loaders) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

44. In response to applicant's argument that Judge fails to disclose or suggest de-referencing the class loader when execution of the application ends (page 14, 6<sup>th</sup> paragraph), the examiner disagrees. Judge discloses that application manager removes references to objects that are to be unloaded and caused the unreferenced objects to be removed from the application cache by calling the java runtime.gc() method (col. 9, lines 41 – 51, col. 13, line 64 – col. 14, line 14). In other words, when the objects are being unloaded, they are also dereferencing the class loader at the same time in order for the garbage collection to be performed (col. 8, lines 59 – 66).

In response to applicant's argument that the reference fails to show certain features of applicant's invention (page 15, 1<sup>st</sup> paragraph line 5), it is noted that the features upon which applicant relies (i.e application manager dereferencing a class loader) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations



from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

### ***Conclusion***

45. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lilian Vo whose telephone number is 571-272-3774. The examiner can normally be reached on Monday - Thursday, 7:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lilian Vo  
Examiner  
Art Unit 2127

lv  
January 19, 2005

  
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